JPRS 75559

24 April 1980

USSR Report

AGRICULTURE

No. 1229

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'SEL'SKAYA ZHIZN' REVIEWS LATE MARCH WEATHER, CROP DEVELOPMENT

LD141007 Moscow SEL'SKAYA ZHIZN' in Russian 4 Apr 80 p 1 LD

[Report by agrometeorologist N. Sakharova under rubric "The USSR Hydrometeorological Center Reports": "Weather and Crops"]

[Text] It continued cold on the USSR's European territory in the last 10 days of March. In the latter half of that period the temperature began raising gradually, and during the day it stood at 2-8 degrees almost everywhere. The last days of March were very warm in southern Moldavia, Transcarpathia, the southern Ukraine, the north Caucasus and the south of the lower Volga region. There was precipitation everywhere.

In the Crimea, Zakarpatskaya oblast, Krasnodarskiy and Stavropolskiy krays, the north Caucasus autonomous republics and southern regions of the Kalmytskaya ASSR winter grain crops resumed vegetation later than normal. On individual days, when the air temperature rose to 9-14 degrees, winter crops began vegetating in southern regions of Moldavia and of Odesskaya, Nikolayevskaya, Zaporozhskaya, Rostovskaya and Astrakhanskaya oblasts and in Khersonskaya and Lvovskaya oblasts. In the remaining regions of the USSR's European territory winter grain crops were in a state of winter dormancy.

South of a line linking Lvov, Chernovtsy, Kirovgrad, Zaporozhye, Rostov-na-Donu and Guryev fruit crops emerged from their winter dormancy and their development began in places. In the south Crimea, the extreme western Ukraine and the north Caucasus apple, cherry, sweet cherry, apricot, peac , plum, cherry plum and persimmon trees were in full bud, and in some places the buds had burst.

The weather grew warmer in agricultural regions of west Siberia and in Kazakhstan. Precipitation continued to be slight. Winter grain crops in west Siberia were in a state of winter dormancy under snow cover, which was primarily 15-30 cm thick.

In the Transcaucasian and Central Asian republics the warm weather with rain was favorable for the growth and development of winter grain crops.

The top 1-meter stratum of soil contained 130-160 mm and more of moisture. Grasses are growing intensively. During the 10-day period their height increased by 5-15 cm in southern regions of Turkmenia and Uzbekistan and by 20 cm in places in Turkmenia.

On fruit crops in Central Asia buds are bursting and leaves developing.

CSO: 1824

MAJOR CROP PROGRESS AND WEATHER REPORTING

UZBEKISTAN FARMERS' PLANS FOR EARLY HARVEST

Moscow SEL'SKAYA ZHIZN' in Russian 13 Mar 80 p 1

[Article by A. Uzilevskiy (Uzbek SSR): "Thus An Early Harvest Is Created"]

> [Text] The farmers of Uzbekistan are effectively utilizing each hour of spring and they are introducing progressive scientific achievements and leading experience into their operational practice.

During the first days of March, the brigade headed by Khushbak Rakhimov at the Surkhan Sovkhoz in Surkhandar'inskaya Oblast completed its corn sowing work. Was this not early? "No" replied the brigade leader, "The seedlings are on the verge of appearing."

The brigade had risked nothing. Acting upon the advice of an agronomist, the brigade workers began making preparations for an early sowing during the autumn. The land was plowed using a double-level plow and both mineral fertilizer and farmyard manure were applied during the autumn plowing. Water supply irrigation was carried out in February and prior to sowing the soil was loosened in a manner so as to permit it to warm up twice as fast. This is ensuring early seedlings.

The brigade gained a week using this method. Thus the crop will ripen earlier (it bears mentioning that the brigade plans to obtain no less than 100 quintals of grain per hectare). Following the harvest, a secondary sowing will be carried out on the arable land for the purpose of obtaining no less than 400 quintals of silage bulk, with ears of milky ripeness, in the autumn.

All of the Uzbekistan farmers have assigned themselves the goal of obtaining early harvests. This goal is sound and it has been verified by experience. Early sowing and early seedling development enable the plants to better endure heavy showers and cold snaps. And in recent years, such events have been occurring on a more frequent basis. Well developed plants are less susceptible to diseases, particularly cotton wilt, and they are better able to withstand drops in temperature and hot desert winds. Certainly, the harvesting of a crop at an early date, prior to the autumn rains and frosts, serves as a protection against losses and guarantees high quality products.

In conformity with this goal, the republic's farms have made intense preparations for their sowing work and they have endeavored to improve upon the established schedules and to carry out the entire complex of pre-spring work in a high quality manner. Autumn plowing combined with mineral fertilizer applications was carried out on the entire area set aside for cotton. More than 1 million hectares of saline land were desalinized. In five oblasts where the degree of field salinization was especially high, soil leaching work was carried out two and three times. Reserve waterings have already been applied to more than 600,000 hectares of land to be used for cotton. Water supply irrigation is continuing. Hundreds of long-base machines were used for carrying out levelling work. Approximately 20 million tons of organic fertilizers were placed in storage for pre-sowing and vegetative applications to the soil. Repair work on the sowing units was completed within the planned periods. Compared to last year, tens of millions of more vegetable plants will be grown this year.

The mass sowing of grain crops is commencing at the present time. The kolkhozes and sovkhozes are striving to sow their wheat, barley, alfalfa and corn and to plant their vegetables and potatoes. The volume of work is tremendous; it is measured in many hundreds of thousands of hectares. Moreover, those lands which were not plowed during the autumn owing to a late harvest must now be plowed in a hurry.

Farms in the southern zone of Uzbekistan are presently engaged in sowing their wheat. They are using seed from regionalized varieties. This includes Krasnovodopadskaya-210 wheat and Sholpan barley. At the large-scale grain Sovkhoz imeni Karl Marks in Kashkadar'inskaya Oblast and on other farms, the units have been staffed with crews for double-shift operations. The daily tasks are being over-fulfilled.

But the principal grain crops will come from the winter fields, which occupy 840,000 hectares of non-irrigated and irrigated land. The mass tillering of the grain crops has commenced on the irrigated fields. The farms in Surkhandar'inskaya, Andizhanskaya and Namanganskaya oblasts are applying an early spring top dressing to their winter crops. This work has already been completed in a number of rayons. But the farms in Bukharskaya, Tashkentskaya and Syrdar'inskaya oblasts are performing this work in an unjustifiably slow manner. On some tracts in Samarkandskaya and Dzhizakskaya oblasts, where the winter crop seedlings are sparse, no further delays should be tolerated in carrying out undersowings.

The sowing of corn is being expanded noticeably throughout the republic this year. In the Surkhan Valley alone, it will be grown on 6,000 more hectares than was the case last spring. The farms plan to expand considerably their production of corn grain and in this manner increase their forage funds. The early sowing of corn will serve not only to provide a more generous yield (it is recalled that in recent years it amounted to an average of 70 quintals per hectare for the republic), but in addition it will make it possible to obtain, by virtue of a secondary sowing on the same irrigated fields, a second harvest of corn for silage.

The vegetable growers are striving to produce greater quantities of early produce than was the case last year. Towards this end, the vegetable plantings under plastic have been expanded this year. It is expected that cucumbers, cabbage, potatoes, radishes and table greens will be shipped to the trade network in just 30-45 days from now. Unfortunately, industry is by no means fully satisfying the plastic requirements of the Uzbek vegetable growers, despite the fact that local conditions are especially favorable for the production of extra-early vegetables. The planning and supply organs must consider this possibility when allocating funds.

Only a short period of time remained prior to the mass sowing of cotton, which occupies more than two thirds of the irrigated fields in Uzbekistan. This year the plans call for 5.85 million tons of raw cotton to be obtained, 90,000 more tons than last year, and for the average cropping power to be raised to 32 quintals per hectare. It is understandable that, considering the high level achieved, each percent of increase requires special expertise and diligence. The leading farms, rayons and oblasts are characterized by these qualities. They are placing new methods in operation and introducing progressive technologies. The farmers in Tashkentskaya Oblast carried out double-level fall plowing on all of the cotton fields. A number of operations are presently being carried out in all areas: early spring harrowing, applications of rotted farmyard manure, subsoiling and disking of the shoulders and edges of beds.

The experience of recent years has shown that the growing of cotton in rows and ridges makes possible early sowing and, it follows, early ripening and harvesting of the crop. With a larger area of solar warming, the soil ripens earlier than it does on a smooth field. A soil crust does not form on ridges following heavy showers -- the water runs off the slopes into deep furrows and is borne away into collectors.

An expansion of the ridge method is fully justified for this year and it will produce an increase in the crop and a ripening of the crop ahead of the usual schedules.

An important feature of this year's sowing campaign is more extensive precision sowing and the introduction of a number of promising varieties having a raised early ripening capability, productivity and resistance to diseases. However, concern is being aroused regarding the delays taking place in the pre-sowing preparation of the seed at enterprises of the republic's Ministry of the Cotton Cleaning Industry. Not all of the farms have been provided with precision sowing machines and yet the planting of the seed on an accurate basis releases the cotton growers from having to participate in a laborious and prolonged process -- thinning out of the seedlings.

The cotton sowing period is approaching. In the very near future the sowing units will make an appearance on the fields in the republic's southernmost Surkhan-Sherabadskaya Valley. Here the equipment has already been moved out to the field camps. By the end of the month, the kolkhozes and sovkhozes in the entire southern and central zones of Uzbekistan will have commenced their sowing work. The republic's farmers are fully resolved to commemorate this present season with ahead-of-schedule fulfillment of the production plan for all crops and all branches of production. They are striving to utilize each spring hour in an efficient manner.

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CSO: 1824

MAJOR CROP PROGRESS AND WEATHER REPORTING

SPRING FIELD PREPARATIONS IN TADZHIK SSR

Moscow SEL'SKAYA ZHIZN' in Russian 7 Mar 80 p 1

[Article by K. Madaliyev (Tadzhik SSR): "In the Valleys of Tadzhikistan"]

> [Excerpts] With each passing day, the sun's rays are providing more warmth in the Tadzhik SSR and warm winds are circulating in the valleys. The winter crops are developing in a fine manner, the alfalfa is turning a bright green in color and the almond trees are blossoming in the extreme south. Taking advantage of each fine day, the farmers, as early as February, began preparing their soil and sowing their early grain and grass crops. With the exception of the mountainous areas, field work is now being carried out in all of the republic's rayons.

Last year the republic over-fulfilled its socialist obligation for selling cotton to the state and still six of twenty-seven rayons failed to carry out their planned tasks. Approximately one third of all of the kolkhozes and sovkhozes remained in debt to the state.

The following facts were cited during a recent conference for agricultural workers. The Moskva and Leningrad kolkhozes in Kanibadamskiy Rayon of Leninabadskaya Oblast, which operate under roughly the same soil-climatic conditions, obtained 33 and 22 quintals of cotton per hectare respectively. Compared to leading farms, the cropping power of backward farms in certain rayons of Kulyabskaya Oblast and in the Gissar Valley was lower by 10-8 quintals. One of the principal tasks confronting the cotton growers is that of eliminating such differences.

This year the farmers of Tadzhikistan have vowed to produce and sell to the state 903,000 tons of raw cotton, with 300,000 tons of this amount being obtained from fine-fibred varieties. The plans call for a further increase in the cropping power of the grain crops by expanding the growing areas for short-stalk wheats of the intensive type and introducing secondary sowings on irrigated lands on an extensive scale.

The time is at hand for carrying out the various plans and hundreds of sowing crews are already at work out on the fields. On the overwhelming majority of the farms, the soil preparation work has been completed and local fertilizers are being laid away for the purpose of applying early top dressings to the cotton. However, some of the work has fallen behind.

A review of operational data reveals that some operations are being carried out very slowly at a large number of kolkhozes and sovkhozes in Kurgan-Tyubinskaya, Kulyabskaya and Leninabadskaya oblasts and in the Gissar Valley: removal of silt from the land reclamation network, leaching of saline lands and reserve waterings. A difficult situation has developed in connection with preparation of the cotton seed. Only one half of the planned quantity of such seed has been improved to the required conditions at the Kurgan-Tyube, Kanibadam, Kulyab and Khodzhentskiy cotton plants.

During the course of recovering lost ground, some enterprises are sacrificing quality. In particular, national controllers have uncovered sub-standard production operations at the Kurgan-Tyube Cotton Plant. Five hundred tons of prepared cotton seed from fine-fibred varieties had a fractionation rate ranging from 5.7 to 7.5 percent, considerably higher than the norm. Such seed cannot be sown -- the sparse plantings would not produce a high yield.

Chemical disinfection work is being carried out on a tardy basis and the plan for preparing bare seed is being disrupted. Instead of 1,000 tons, as yet only slightly more than 300 tons have been procured. Last year the seed control service rejected one third of this type of seed and this brought about a reduction in the area of precision sowing. Time is still available for avoiding a repetition of earlier mistakes and for rapidly correcting the situation.

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CSO: 1824

TURKMEN FARMERS RUSH TO COMPLETE COTTON SOWING

Moscow PRAVDA in Russian 2 Apr 80 p 1

[Article by correspondents A. Grachev and M. Bodryy, Turkmen SSR: "The Planting Is Not Giving Us Any Respite"]

[Text] Winter in the south of the country has been unusually long. Now agricultural workers are making up for lost time. The sowing of early vegetables, alfalfa, and cereal crops is underway in rayons in the middle reaches of the Amudar'ye, the Murgabskiy Oasis, and the Karakum Canal zone. Potato planting is in progress. These operations must be completed by the end of the mass cotton sowing.

Cotton is the republic's leading crop. Special attention is now being paid to the area planted to it. In this last year of the five-year plan rural workers have decided to harvest 1.21 million tons of the "white gold." Collectives on the majority of farms completed preparing the irrigation system as early as last fall, and pre-sowing operations have now started everywhere.

In Chardzhouskiy Rayon the planning of the acreage the cutting of furrows, and harrowing are proceeding without serious obstacles thanks to the skillful maneuvering of equipment. The leaching of the soil is being carried on around the clock.

Matters are proceeding equally well in many other rayons. But the pace of preparations for spring sowing is slower than last year for the republic as a whole. Leaching waterings have not been conducted on a third of the saline areas. And it will soon be time to sow, you see. If the fields are not freshened early, their fertility deteriorates sharply. This explains to a large degree the low cotton yield on a number of farms in the Tedzhenskiy Oasis and the Prikopetdagskaya Plain where last year a total of 10 to 15 quintals of the raw material was harvested per hectare.

Ch. Kurdov, chairman of the Tedzhenskiy Lenin Yely Kolkhoz, summarizes the farm's preparedness for spring. On paper the plowing, planning, fertilizer application, and tractor repair have been completed. But in fact it turned out that the fields were badly planned, and the soil is unevenly moist. The equipment is scattered and is not used comprehensively. Efficient servicing of the machines and machinery has not been assured.

The repair, cleaning of the farm's internal irrigation system, soil planning, and preparation of the plots to receive water have not been completed in Maryyskaya Oblast, the largest cotton planting oblast, and tens of thousands of hectares of irrigated land have not been plowed in Tashauzskaya Oblast. As a rule, the organizing role of party committees and bureaus and of the executive committees of local soviets of people's deputies is weak in lagging farms and rayons. They utilize equipment and irrigation systems badly here.

Baydzhan Atabalov, hero of socialist labor and brigade leader of the Maryyskaya Oblast Ashkhabad Kolkhoz says:

"The spring sowing is not called the foundation of the harvest for nothing. We are completing it at the best time and are sowing seed in well prepared soil. Therefore, our brigade annually reaps a harvest of 50 or more quintals of top quality raw material from each hectare."

The time for spring sowing has been delayed by the cold this year. But the situation must not be considered hopeless. There is still time to sow cotton during the best time in April. We must exert great effort to do this. First of all we must use the equipment better, according to a tightened schedule. We must disseminate and introduce the experience of leading workers and innovators more actively. B. Atabalov's brigade calculates that by Lenin's jubilee it will have obtained sturdy shoots of cotton on its plantations and will have begun to care for the plants.

Bad weather has made substantial changes in the plans of southern agricultural workers. Therefore, it is necessary within periods shortened to the maximum to make up what has slipped by because of the bad weather. Cotton seed have already been planted on the first thousands of hectares. The tense time for the sowing is ahead. Spring is not giving the agricultural workers any respite.

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CSO: 1824

AZERBAIJAN FARMERS PREPARE FOR SPRING PLANTING

Moscow IZVESTIYA in Russian 2 Apr 80 p 1

[Article by special correspondent Z. Kadymbekov, Azerbaijan SSR: "A High Level of Field Work"]

[Excerpts] Winter in the Azerbaijan subtropics, the main vegetable growing zone of the republic, was mild and warm. The sun shone brightly in the middle of January as if it were spring. In the beginning of March the rain suddenly set in and it even snowed. All this delayed the planting of the seedlings in open ground almost 20 days. Therefore, a fast pace of work has been set on all the farms now that the sun has begun to shine again.

All agricultural workers in Azerbaijan have begun the campaign for a high yield during this spring period. The winter crops are in good condition. They are now being top-dressed and watered. Everything is being done to guarantee the grains' accelerated growth.

It is almost time for the mechanizers to take the sowing units to the cotton fields. The plowed field has been prepared well for the sowing: the land has been leached, and moisture-charging waterings have been carried out. In many cotton planting rayons the equipment has been repaired well and is ready to go.

Last year viticulturists also achieved record indicators -- they came close to the million ton mark for the sun-drenched berries. This is the result of intensifying production specialization and concentration.

Bad weather conditions complicated the work of the agricultural workers. The time left for planting cotton, vegetables, corn, and several other crops naturally is shorter. This situation requires maximum mobilization of forces, efficiency, and organization on the part of field workers. It is precisely these qualities that last season when the weather was capricious as never before made it possible for republic agricultural workers to achieve record yields and to show that it is within their power to overcome any difficulties.

This year spring has been a happy, bright time for all republic workers. Quite recently they received hearty congratulations from Leonid Il'ich Brezhnev for early completion of the Tenth Five-Year Plan for industrial and agricultural production. The republic was awarded the nation's high decoration -- the Order of Lenin. Azerbaijan is honorably preparing for the 110th anniversary of the birth of V. I. Lenin, and the 60th anniversary of the republic and the Communist Party of Azerbaijan. Agricultural workers are now going out to the field with a tremendous desire to raise a record crop in this jubilee year.

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CSO: 1824

MAJOR CROP PROGRESS AND WEATHER REPORTING

STATUS OF SPRING FIELD WORK IN KUBAN' REGION REVIEWED

Moscow SEL'SKAYA ZHIZN' in Russian 6 Mar 80 p 1

[Article by Yu. Semenenko (Krasnodarskiy Kray): "Spring in the Kuban'"]

> [Excerpts] The sowing units have been moved out onto the kray's fields. Mineral fertilizer top dressings have been applied to one and a half million hectares of winter grain crops. This year the leading farms, teams and brigades are competing to obtain 50 quintals of grain per hectare.

The breath of spring is becoming more noticeable in the Kuban'. The soil is drying out and hundreds of units are moving out onto the fields -- in the southern rayons the arable land is being prepared and the sowing of early spring crops carried out and in the northern zone the work of applying a top dressing to the winter crops continues.

The mass check carried out recently on the status of the winter wheat and barley crops revealed that they wintered very well. However, the results of soil analyses revealed a deficit of nitrogen in the soil. Thus, nitrogen and complex mineral fertilizers are being applied to stimulate plant growth. The following information was furnished by the kray's agricultural administration: a top dressing has been applied to the winter crops on 1.5 million hectares. On those fields intended to be used for obtaining strong grain (there are more than 700,000 hectares of such plantings in the kray), fertilizer is being applied a second time. Many farms are applying root top dressings to their wheat and this is producing especially high increases in yields.

The farmers in Mostovskiy Rayon are performing their field work in an organized manner. Not waiting for the soil to dry out on all of their lands, they are taking advantage of each good hour of time to carry out moisture retention work, cultivate and level the soil and sow as much peas and oats as possible. None of the machine operators require prompting. They are all aware of the importance of fully utilizing each moment of time during this present period. Within a brief interval of time, the rayon's kolkhoz and sovkhoz workers succeeded in sowing almost one half of the area set aside for peas and oats. The preparation of ridges for potatoes is proceeding at a high tempo.

Good news is being received from Anapskiy Rayon and work is being carried out at a feverish pace on fields in Krymskiy Rayon.

The Kuban' rice growers, who this year vowed to produce 1 million tons of "white grain," have moved out onto their fields. The workers at specialized farms are completing their work of cleaning canals and repairing hydraulic engineering installations and the irrigation network. The following work is in full swing -- ridging of intra-check plot channels, subsoiling and levelling off of the check plots. Special attention is being given to those areas where the rice must be sown very early and with deep placement of the seed. This method furnishes a noticeable increase in yield.

The timely and high quality repair of equipment is promoting harmonious work out on the fields. Practically all of the kray's kolkhozes and sovkhozes succeeded in preparing their machines for spring. A mutual check carried out recently revealed that the required technical norms were observed in carrying out the repair work. Working plans were composed on each farm and they were corrected taking into account the dry spring conditions. In addition, technological charts were prepared and units assembled.

In that many farms are experiencing a deficit of moisture in the soil, special importance is being attached this year to the rates for carrying out the field work. Quality is also of equal importance. The Kuban' grain growers are employing leading agro-technical methods -- cultivation by layers and thorough levelling off of the soil, complete destruction of weeds. The farms are successfully employing the VNIS-R type harrow and other agricultural implements which dry out the soil to a negligible degree. Liquid organo-mineral mixtures are being employed extensively. The sowing work is being carried out using first class seed of regionalized varieties. During recent seminar-conferences held in the kray, the Adygeyskaya AO and in various rayons, where discussions were held on methods for raising the yields being obtained from Kuban' fields, the tactical methods were further refined and specific measures were outlined for introducing scientific achievements and leading experience into operations. These same problems were examined in detail during meetings of the party-economic aktiv at kolkhozes and sovkhozes.

In a number of measures concerned with achieving a substantial increase in cropping power, an important place is occupied by work aimed at raising the fertility of the Kuban' chernozem soils. Last year the kray's grain growers plowed 32 million tons of organic fertilizers into the soil, or an average of 7 tons per hectare of arable land. Last year, in less than 2 months, 5 million tons of organic fertilizer were moved out onto the fields and stored. Many farms have begun adding this valuable fertilizer to the soil.

"We view the early part of March, at which time a portion of the spring field work is carried out, as a dress rehearsal prior to the mass sowing of crops. It is gratifying to note that the field work is being carried out in an organized manner, with each machine operator and sower performing at maximum capability and striving to make a worthy contribution towards fulfillment of the high socialist obligations" stated the chairman of the kolkhoz, A.N. Smola.

The field work being carried out in the Kuban' is increasing in tempo.

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MAJOR CROP PROGRESS AND WEATHER REPORTING

SPRING FIELD WORK IN STAVROPOL'SKIY KRAY

Moscow SEL'SKAYA ZHIZN' in Russian 8 Mar 80 p 1

[Article by S. Timofeyev (Stavropol'skiy Kray)]

> [Excerpts] The weather in Stavropol'skiy Kray is still capricious: at times the sun shines, ground winds blow or the earth is covered by a cold fog. Nevertheless, spring is asserting itself and lines of harrows and sowing units are standing alongside the awakening fields. The agronomists are checking their spring crop seed again and again, the machine operators are carrying out their last mutual inspections and a top dressing is being applied to the winter crops.

This year the farmers in Petrovskiy Rayon have vowed to produce considerably more grain, sunflowers, vegetables and silage crops than they produced last year. The campaign to achieve high yields was begun back during the autumn months, at which time the machine operators sowed the winter crops on 88,000 hectares during the best periods. In all areas, the plants bushed out well and also endured the winter conditions very well. A top dressing is presently being applied to the wheat fields in all areas and the units to be used for harrowing and packing the soil have all been made ready.

A type of rehearsal for the busy spring period was carried out in advance on many of the farms -- during the brief February "windows."

The principal production subunits in the rayon are now the mechanized detachments, each of which operates on an enlarged crop rotation plan field some 6,000-8,000 hectares in size. The detachments include teams which specialize in the cultivation of corn, sunflowers, sugar beets and other crops. The organization of the competition, the wage system based upon the harvest obtained and quality control have all received adequate thought and study.

The period immediately prior to the mass sowing work always involves difficulties -- only 71 percent of the seed meets the requirements for first class, while at the same time there is a shortage of seed in Turkmenskiy, Budennovskiy and Apanasenkovskiy rayons. The state came to their aid and allocated the required amounts. This material must quickly be brought to the required sowing conditions and chemically disinfected.

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MAJOR CROP PROGRESS AND WEATHER REPORTING

SPRING FIELD WORK, SOWING PREPARATIONS IN ROSTOVSKAYA OBLAST

Moscow SEL'SKAYA ZHIZN' in Russian 22 Mar 80 p 1

[Article by Yu. Maksimenko (Rostovskaya Oblast): "And the Field Responds With a Harvest"]

> [Text] The grain growers in the Don River region have launched a mass competition this year for obtaining high yields of grain and forage crops and for the organized carrying out of the spring sowing work.

During the month of March, the Don Steppe region is full of contrasts. In the south the land is thawing out and the furrows of the fall plowing are black in color in all areas. In the eastern portion of the oblast and along the upper reaches of the Don River, the fields are still covered with snow and strong frosts prevail at night. The grain growers repeatedly check the readiness of their equipment and seed and also the operational reliability of their units. The machine operators are working out the various problems and developing the plans for sowing and tending the crops. The farmers wish to make up for last year's shortfall in grain and feed and to obtain a greater return from each hectare of agricultural land.

"Serious concern is being displayed for the grain" stated one of the oblast's better known masters of high yields, Grigoriy Pavlovich Bezuglyy, manager of the 3d Department at the Kolkhoz imeni Kalinin in Zernogradskiy Rayon, "All preparations have been made for the sowing work. For 4 years of the five-year plan, we obtained 48 quintals of grain from each hectare and this year we plan to obtain 50 quintals.

The school of leading experience, which was created several years ago by the collective of Bezuglyy's department, has been attended by many brigade leaders and managers from various farms throughout the oblast. They are convinced that success is based upon a progressive agricultural complex. This includes more productive varieties, first class seed, efficient soil cultivation systems and fertilizers. It also includes the ability to select the best periods for sowing, tending the winter crops and gathering in the harvest without losses. In short, a field responds with a high level of fertility when a high culture of labor is employed. For this current spring period, the department acquired seed for new varieties of barley, corn and forage crops, all of which will furnish a worthy increase in output.

With each new spring day, greater intensity is being observed throughout the oblast in connection with the competition to raise the culture of farming, which was begun based upon initiative displayed by the grain growers in Azovskiy Rayon, and to achieve stable yields and maximum harvests for the grain and other crops. Hundreds of departments, brigades, kolkhozes and sovkhozes have already joined in this movement. This year the workers in the Don River region have vowed to produce 9 million and to sell to the state no less than 3.6 million tons of grain, including 1.6 million tons of strong and valuable wheats, 592,000 tons of sunflower seed and 550,000 tons of vegetables. What is the basis for these figures?

We were informed by the agricultural production administration of the oblast executive committee that a firm base has been established for the future harvest. The kolkhozes and sovkhozes are increasing their grain fields, expanding their plantings of the more productive varieties and introducing progressive technologies for the cultivation of crops. The fertility detachments have moved 20 million tons of organic fertilizers out onto the fields -- more than in past years. All of the spring crop fields were plowed in the autumn. The oblast has been supplied with seed, the readiness of its machine-tractor pool is better than in previous years and it possesses fine experience in the use of equipment based upon the Ipatovo method.

In developing their plans, the farmers are giving due consideration to the peculiarities of this present spring period. Owing to cold weather, the start of the field operations was delayed. This raised the need for a high work tempo and reduced periods for carrying out the work, with the prescribed agricultural practices being observed in a very strict manner. Sowing complexes may be of assistance in achieving these goals. More than 2,000 such complexes will participate in the sowing work.

The Don River region farmers have undertaken the following task -- to utilize each moment of spring in a highly productive manner and to sow their early spring crops in 80-100 hours, sunflower seed -- in 4-5 days and corn -- in 7-8 days. The feasibility of these periods is borne out by the experience accumulated at the well known Gigant Sovkhoz and at the kolkhozes imeni XX Parts"yezda and Orden Lenina in Orlovskiy Rayon, which annually carry out their sowing operations in an efficient rhythm.

The initial reports have been received from the southern rayons: the work of applying an early spring top dressing to the winter crops has commenced. This work must be carried out on the entire area, including 1.6 million hectares using the root method, with an agricultural complex being employed for growing high quality grain. Approximately 5,000 fertilizer distributors were equipped for this purpose and fertilizer procured. The specialists established daily monitoring of the status of the crops and their emergence from winter hibernation. On each farm, strict control was established over the spring tending of the winter crops, crop protection against pests, diseases and weeds and the creation of conditions for ensuring healthy plant growth and development.

The eve of the mass sowing operations did not pass without vexing miscalculations.

Recently, highly productive varieties of barley, corn and pulse crops were regionalized throughout the oblast. However, low productivity varieties predominate in the commodity plantings of many farms. For example, in addition to Odesskiy-36 barley, which occupies the principal areas, Gossortset' [State Strain Testing Network] supplied production with new varieties -- Odesskiy-69, Donetskiy-6 and Zernogradskiy-73, all of which surpass the first variety by 2-5 quintals per hectare. But these varieties are not being introduced in a persistent manner and, as a result, the farms are losing out on tens of thousands of tons of forage grain.

Seed production for peas has not been organized in the oblast. The farms are experiencing a critical shortage of seed for this valuable pulse crop and thus they are having to import such seed from other oblasts and krays. Radical improvements are required in corn seed production and in the construction on the farms of seed-cleaning complexes, covered thrashing floors and granaries. Indeed the Don River farmers plan to produce 1 million tons of corn grain.

The grain and forage fields of the Don River region are awaiting their own particular hour. When it will be this year is dependent upon each grain grower, specialist and leader and upon the degree to which they display initiative, responsibility and interest in isolating additional reserves.

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MAJOR CROP PROGRESS AND WEATHER REPORTING

AZERBAIJAN SSR CROP PRODUCTION PLANS DISCUSSED

Moscow SEL'SKAYA ZHIZN' in Russian 28 Mar 80 p 1

[Article by B. Daminov (Azerbaijan SSR): "During the Best Periods"]

> [Excerpts] The agricultural workers of Azerbaijan, who fulfilled their five-year plan for the sale of grain, fruit and vegetables to the state ahead of schedule, have resolved to respond to the address by L.I. Brezhnev and to the conferring of the Order of Lenin upon the republic, by achieving new successes in their labor. They have been performing their tasks at a high tempo since work first began out on the spring fields and in the orchards and vineyards.

As always, the month of March in Azerbaijan is very capricious. From time to time, the warm days are replaced by cold ones and the clear weather by rainfall and winds, with snow appearing from time to time in the mountainous regions. The farmers engaged in carrying out field work at the present time must utilize every good hour of time to maximum advantage. On the Kura-Araksinskaya Lowland, they have already sown forage crops on more than 60,000 hectares. The seed for alfalfa, sainfoin and fodder beets was sown in well fertilized soil and during the best periods. The farms are rapidly making preparations for the sowing of cotton.

In many rayons where the sowing of early spring crops has been completed, top dressings are being applied to the winter crops and at an accelerated tempo. Such an attitude is fully justified -- last year the republic's farmers were the first to harvest more than 1.2 million tons of grain and this year they intend to ensure that this level is not lowered. Based upon the example of farms in Agdamskiy, Bardinskiy, Sabirabadskiy and Agdzhabedinskiy rayons, which plan to obtain 40 quintals of grain per hectare, a majority of the kolkhozes and sovkhozes have undertaken raised obligations.

Aircraft of agricultural aviation are presently circling above the republic's grain fields, which occupy an area of more than 600,000 hectares, as they apply fertilizer. Meanwhile, fertilizer is being applied at the root layer with the aid of ground equipment.

The land reclamation network is being restored to order on fields on which cotton is to be sown.

More than 730,000 tons of raw cotton were obtained last season throughout the republic, with the production of this crop having increased one and a half times since the beginning of the five-year plan. In the interest of exceeding the level already achieved, a complex of winter and spring agricultural measures was carried out at all of the cotton growing kolkhozes and sovkhozes. In particular, water was supplied to the land to be used for cotton and mineral and organic fertilizers were also applied during the principal plowing, carried out using double-level plows.

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BRIEFS

DRY CONDITIONS COUNTERED--Yevlakhskiy Rayon, Azerbaijan SSR--Although winter in Azerbaijan is only a calendar period -- frosts and snowstorms do not occur here -- nevertheless it makes it presence known. This applies in particular to the winter pastures, where the flocks of sheep are located. Owing to the dry autumn period, only scanty stands of grass are to be found on the pastures in almost all of the republic's rayons. But the livestock breeders stored away adequate quantities of coarse, succulent and mixed feed. In those areas where suitable conditions exist for watering, irrigated pastures have been created on which barley and also alfalfa and other grasses are already turning green in color. [Excerpt] [Moscow SEL'SKAYA ZHIZN' in Russian 21 Mar 80 p 1] 7026

GEORGIAN SSR SOYBEAN PRODUCTION--Tbilisi, 22 Mar--The farms in Georgia have commenced sowing their soybeans. Together with the machine operators, workers from the republic's Scientific Research Institute of Farming have gone out onto the fields -- they will furnish assistance to the field workers in developing a technology for cultivating this crop. The family crew of I. Strochak, from a kolkhoz in the village of Pervoye Maya in Abashskiy Rayon, is leading in the competition being held for sowing personnel. Based upon the example set by the Kuban' farmers, it was the first in Georgia to introduce an industrial agricultural technique for soybeans. Last year the team achieved an increase of 10 quintals in its per hectare yield. A mass competition for obtaining high yields has been launched in all areas throughout the republic. Soybeans are under cultivation in 37 of the republic's rayons. The scientists have created highly productive varieties of this crop for each of these rayons. For example, for the subtropic regions -- Kolkhidu-4, and for mountainous farms -- Mutant-2. It furnishes high grain and fodder yields on fields located at heights of 1,000-1,200 meters. In all, the Georgian scientists have developed eight new and highly productive varieties of soybeans. Five of them have been regionalized. [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 28 Mar 80 p 1] 7026

SPECIAL FIELD TACTICS REQUIRED--Armenian SSR--Warm southern winds are bringing a breath of spring to Armenia and causing the farmers to accelerate their spring preparations. They have begun carrying out their spring field work in a selective manner: applying a top dressing to the winter crops, harrowing and sowing seed in hotbeds for the cultivation of vegetable crop seedlings. The vineyard workers in the Ararat Valley are digging up their vines and the orchard workers are pruning their trees. Under the conditions prevailing in Armenia, the spring work to be carried out in the orchards and vineyards is viewed as being very difficult and important. The changeable weather at times warms the air to 20 degrees, only to be followed suddenly by autumn-like cold showers. On one and the same day, in the same rayon or even on the same farm, one often encounters almost all of the caprices of weather. Certainly, such conditions require the use of special tactics in carrying out the field work. And such tactics have been developed by the local farmers over a period of years. [Excerpt] [Moscow SEL'SKAYA ZHIZN' in Russian 12 Mar 80 p 1] 7026

ORGANIC FERTILIZER DELIVERIES--Krasnodar, 21 Mar--Based upon a decision handed down by the kray party committee and the kray executive committee, a special campaign, to last 1 month, has been established for the purpose of transporting organic fertilizers. No less than 5 million tons must be delivered to the fields. All of the fertility detachments of kolkhozes, sovkhozes, interenterprise associations and enterprises of Goskomsel'-khoztekhnika are participating in this work. During this month's campaign, many detachments will be supplied with additional units of equipment, units which were available prior to the commencement of the mass field operations. On a number of farms in Leningradskiy, Novokubanskiy, Ust'-Labinskiy and other rayons, the transporting of farmyard manure will be carried out in two shifts. Since the beginning of the year, approximately 10 million tons of organic fertilizers have been delivered to fields throughout the kray and immediately plowed into the soil. In all, 34 million tons of local fertilizers will be applied to the Kuban' fields this year. [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 22 Mar 80 p 1] 7026

SOWING OF EARLY POTATOES--Yerevan, 18 Mar--Spring appears to be in no hurry this year -- a touch of cold weather from time to time, including the sudden appearance of snow. But even under these conditions, the leading farms in Masisskiy Rayon are already completing their planting of early potatoes, as they utilize to maximum advantage each good hour of time. In particular, fine work has been performed by the machine operators of a kolkhoz in Arbat Village. The machine operators in such villages as Gekhana, Nizama, Sayat-Nov and Demircha are also maneuvering their equipment in a skilful manner. The rayon's farmers are doing everything possible to ensure the completion of their tuber planting work within 5-6 days. They plan to ship their initial output -- early potatoes -- to workers in cities and at industrial enterprises during the month of May. [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 19 Mar 80 p 1] 7026

SELECTIVE HARROWING DELAYED--Stavropol', 22 Mar--The machine operators in Stavropol'skiy Kray have commenced their selective harrowing work. As a result of the prolonged cold weather during March, field operations throughout the kray have commenced considerably later than was the case last year. In the interest of ensuring that the entire agrotechnical complex of spring work is carried out during the best periods in all areas, the farmers concentrated their equipment at the field camps in advance. One thousand mobile complex detachments, equipped with specialized teams for providing preventive maintenance services and carrying out operational repairs on the units, are in a complete state of readiness. This is already the third spring period that the Stavropol' workers have been utilizing their equipment based upon the method employed by their fellow-countrymen -- the workers of Ipatovo. The experience accumulated will enable the kray's grain growers to carry out their harrowing work in a rapid manner and thereafter, using the same condensed schedule, complete their sowing operations and obtain healthy seedlings prior to the onset of the dry steppe winds. [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 23 Mar 80 p 1] 7026

FIELD WORK COMMENCES--Cherkessk, 12 Mar--Field operations have commenced on other kolkhozes and sovkhozes located in the Karachayevo-Cherkesskaya AO. [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 13 Mar 80 p 1] 7026

SOWING OPERATIONS CONTINUE--Tskhinvali, Yugo-Osetinskaya AO, 19 Mar--The field crop growers of farms in the autonomous oblast have moved their sowing units out onto the fields. The workers at the Yeredvskiy Sovkhoz were the first in Tskhinval'skiy Rayon to commence the sowing of oats. The sowing of sugar beets, vegetables and other crops has commenced at a kolkhoz in the village of Kauisa. Sowing units are also in operation out on kolkhoz fields in the villages of Kemert and Dzartsema and on other farms. [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 19 Mar 80 p 1] 7026

HIGH SOWING TEMPO--Tbilisi, 14 Mar--The farms in the Shirakskaya Steppe region -- the chief grain area of Georgia -- have completed their sowing of spring grain crops. The timely preparation of the equipment and use of the Ipatovo method have promoted a high work tempo for these sowing operations. In particular, fine expertise in carrying out the sowing work has been displayed by a group of machine operators, under the direction of Hero of Socialist Labor N. Melikishvili, at a kolkhoz in the village of Zemo-Keda in Tsiteltskaroyskiy Rayon. Here the equipment is being employed under full workloads and the crews are staffed with experienced sowing specialists. The farms in the northern regions of the republic are also prepared for the sowing of their grain crops. [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 15 Mar 80 p 1] 7026

RAISED GRAIN PLAN--Severo-Osetinskaya ASSR--Although the sun is shining much brighter in the north Caucasus, nevertheless the cold weather refuses to give ground. The work must be carried out on a selective basis, with the time remaining before the mass sowing work being used for carrying out the last mutual inspections and for training. The farmers in the Kabardino-Balkarskaya ASSR have established high goals for themselves. The decision has been made to raise the gross yield of grain to 580,000-600,000 tons, including up to 320,000 tons of corn. In order to achieve this goal, the spring crop fields are being expanded by implementing improvements in the crop structure. The plans call for the corn plantations to be increased to 65,000 hectares, with more than one half of this amount being cultivated using an industrial technology. The farmers in the Severo-Osetinskaya ASSR are also making preparations to obtain high yields this year. They are arming themselves with the experience accumulated by the best farms and workers. Recently, a delegation of agricultural workers from the Kabardino-Balkarskaya ASSR paid a visit to the Severo-Osetinskaya ASSR. They visited farms in several rayons, acquainted themselves with the work being performed by the corn growers, shared their own experience and they congratulated friends in connection with the Severo-Osetinskaya ASSR being awarded the Challenge Red Banner of the CPSU Central Committee, the USSR Council of Ministers, AUCCTU and the Komsomol Central Committee. Labor collaboration and mutual assistance are viewed as very important factors in the campaign being waged by both autonomous republics to achieve high yields by the end of the five-year plan. [Excerpts] [Moscow SEL'SKAYA ZHIZN' in Russian 16 Mar 80 p 1] 7026

COTTON SOWING--Mary. The sowing of fine fiber cotton began today on farms in Maryyskaya Oblast -- the main zone in Turkmenistan producing the most valuable raw material for light industry. Fertilizers and herbicides for combatting weeds are applied to the soil along with the seeds. We plan to conduct operations by the precision sowing method on 65,000 hectares. This will make it possible to eliminate the laborious operation of thinning the shoots. This year 205,000 hectares are earmarked for cotton in the oasis, over half of them for fine fiber varieties. This year there are plans to raise them on virgin land sovkhozes in the Karakum Canal zone. The late spring delayed the beginning of the sowing by almost a week. To catch up kolkhozes and sovkhozes have readied considerably more sowing units for work in comparison with last year. [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 27 Mar 80 p 1] 7990

COTTON PLANTING--Ashkhabad. Agricultural workers in the south of Turkmenistan are taking an examination in expertise -- the mass sowing of cotton has begun here. Farms in the main cotton oblasts -- Maryyskaya, Ashkhabadskaya, and Chardzhouskaya -- have been included in it. In order to make up for time lost because of bad weather, more sowing units than last year have been taken out to the field. This makes it possible to curtail the sowing period and to use good days to the maximum. The present spring is characterized by more extensive introduction of the achievements of leading agricultural technology into cotton production. Almost half of the area is to be planted with 90 centimeters between the rows. This will increase labor productivity in cultivating and watering the planted area and free agricultural workers from manual operations -- thinning the shoots. Organic-mineral mixtures are applied to the soil along with the seeds; microfertilizers and herbicides are also applied to some areas. In accordance with the July 1978 decree of the Plenum of the CPSU Central Committee which required an increase in the production of fine fiber cotton, areas planted to it have been expanded and the number of specialized farms increased. It has been decided to sow the fields with new highly productive varieties of this crop. [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 3 Apr 80 p 1] 7990

WINTER-CROP TOP DRESSINGS--Chimkent, 21 Mar--The areas devoted to grain crops at kolkhozes and sovkhozes in southern Kazakhstan are increasing in size. Winter crops alone occupy 476,000 hectares -- this is 62,000 more hectares than last year. Top dressings are presently being applied to these crops in all areas. Notwithstanding the inclement weather, nitrogen fertilizers are being applied on a daily basis to 17,000-19,000 hectares. This work is being carried out successfully in Saryagachskiy and Turkestanskiy rayons. [Excerpt] [Moscow SEL'SKAYA ZHIZN' in Russian 22 Mar 80 p 1] 7026

SOWING CAMPAIGN COMMENCES--Chimkent, 12 Mar--Spring sowing operations have commenced in southern Kazakhstan. Today the units moved out onto the fields on farms in the Chardarinskaya Steppe region. Almost 400 complex detachments have been created throughout the oblast. So that these detachments may operate on a double-shift basis, more than 2,000 machine operators have undergone training. The Chimkent farmers are employing extensively the experience accumulated at the Sovkhoz imeni Karl Marks, with regard to obtaining two agricultural crop harvests during the summer period. The rye and barley fields, after the harvest has been brought in, are sown in corn in order to obtain green feed. [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 13 Mar 80 p 1] 7026

KIRGHIZ GRAIN PLAN--Osh, 12 Mar--Snowstorms are still occurring on the upper "floors" of the Tyan'-Shan' region, while the tempo of spring field work is increasing in the valleys of the southern part of the republic. Today, festively decorated columns of tractors moved out onto the fields of farms in Batkenskiy Rayon, where the farmers were the first in Kirgizia to commence their sowing of spring grain crops. The grain growers are following their usual schedule -- following the spring period, to move ever higher into the foothills and to sow the grain crops as the soil ripens. The schedule is corrected with the assistance of science. For each zone, the scientists developed highly productive varieties of spring wheat and barley and they developed a technology for cultivating them. The grain growers of Kirgizia, who are ahead of schedule in carrying out their five-year plan for grain production, have vowed this year to raise their gross yield to almost one and a half million tons. [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 13 Mar 80 p 1] 7026

UZBEK SSR SOWING OPERATIONS--Uzbek SSR--More than 300 complex mechanized detachments of kolkhozes and sovkhozes in the southernmost oblast of Uzbekistan, Surkhandar'inskaya Oblast, are carrying out spring field work along a broad front. The detachments contain teams responsible for carrying out soil preparation, sowing and technical servicing work. Since the very first days, use has been made of the high ridge sowing method on fields throughout the oblast. This method guarantees earlier seedlings and precludes the formation of a soil crust. Following rainfall, the sowing of alfalfa, corn and wheat was resumed. In Ferganskaya Oblast, the alfalfa growing area is being increased by 18,000 hectares. The mass sowing of corn is being carried out by specialized brigades at kolkhozes and sovkhozes in Namanganskaya Oblast. [Excerpts] [Moscow SEL'SKAYA ZHIZN' in Russian 28 Mar 80 p 1] 7026

SOWING PLANS REVEALED--Alma-Ata, 27 Mar--The sowing campaign, which began 2 weeks ago in the extreme southern part of the republic, has reached the valleys of the northern Tyan'-Shan' region. The farmers in Talgarskiy, Dzhambulskiy, Iliyskiy and Kurtinskiy rayons of Alma-Atinskaya Oblast have sown grain crops on their initial thousands of hectares of arable land. The Alma-Ata workers are performing their tasks under the slogan: "To cultivate and sell to the state this year 250,000 tons of grain and to over-fulfill to a considerable degree the task for the five-year plan." All of the harvest inputs have been taken into account. Only high quality seed is being sown, mainly of first or second class quality. Phosphorus fertilizers are being applied to the drill rows. The soil is being improved by the addition of mineral fertilizers and humus -- more than 1.7 million tons were moved out onto the fields during the winter, the greatest amount ever delivered. The farmers plan to complete their sowing of all of the spring grain fields, almost 400,000 hectares, in just 5-7 days. They are relying upon efficient use of the equipment. Five hundred complexes, detachments and teams that have been formed on the farms will employ the Ipatovo method. Sowing operations are also being carried out in the republic on the farms in Chimkentskaya and Dzhambulskaya oblasts. [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 28 Mar 80 p 1] 7026

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AGRO-ECONOMICS AND ORGANIZATION

GREATER EFFECTIVENESS REQUIRED FOR CAPITAL INVESTMENTS IN AGRICULTURE

Moscow FINANSY SSSR in Russian No 2, Feb 80 pp 19-21

[Article by Professor L.P. Blinov, Doctor of Economic Sciences: "A High Effectiveness for Capital Investments in Agriculture"]

[Text] Following the March (1965) Plenum of the CPSU Central Committee, considerable capital investments were allocated for the development of agriculture. It is sufficient to state that 71 percent of the total amount of such investments allocated by the state to kolkhozes in this branch during the 1918-1977 period were employed during the past two five-year plans and 2 years of the Tenth Five-Year Plan. As a result of the redistribution of the accumulated portion of the country's national income in favor of agriculture, the proportion of capital investments in the branch increased from 20 to 26 percent during the Ninth Five-Year Plan, compared to the eighth, and it is expected to reach more than 27 percent for the Tenth Five-Year Plan.

The increase in capital investments promoted a strengthening of the material-technical base for agriculture and its intensification. During this period, the value of the branch's fixed capital increased by more than 2.5 times and the total amount of engine power -- by 2.2 times. For the Tenth Five-Year Plan, the plans called for an increase in the capital-labor ratio in industry of 34 percent and in agriculture -- 60 percent. In 1980, its level in agriculture must be roughly 66 percent of its level in industry.

The high rates of growth in capital investments during this modern stage derive from the need for ensuring dynamic and effective agricultural development and also for ensuring that the country is supplied with food and agricultural raw materials.

As agriculture is supplied with greater amounts of modern means of production and more improved use is made of such means, and as the degree to which agriculture lags behind industry in terms of its technical level is overcome more rapidly, the productive forces of agriculture will be transformed more rapidly and higher labor productivity achieved. Thus, it was mentioned in the decree handed down during the July (1978) Plenum of the CPSU Central Committee that, when developing the Eleventh Five-Year Plan, provision should be made for an appropriate increase in capital investments in agriculture and for retaining their proportion in the overall volume of resources allocated for national economic development.

In allocating extensive resources for agricultural development, the party attaches priority importance to raising the effectiveness of such resources, selecting more profitable and economic trends for capital works, achieving a greater increase in output per ruble expended and reducing the pay-off periods. However, in agriculture, just as in certain other branches, a reduction has been observed recently in the capital-output ratio. For example, in 1977 the capital-output ratio level in industry was 85 percent compared to 1965 and in agriculture -- 76.6 percent. At sovkhozes in the Tatar ASSR, the capital-labor ratio and the availability of funds increased twofold, while the capital-output ratio decreased by 15.6 percent. Moreover, labor productivity increased by 167.6 percent and for agriculture throughout the country as a whole -- by 169.8 percent.

Is it possible on the basis of this data to draw a conclusion concerning a reduction in the effectiveness of capital investments and fixed capital? We are of the opinion that it might be too early to draw such a conclusion. Studies carried out on this particular problem have shown that a change in the capital-output ratio during this modern stage must be viewed mainly in close interaction with labor productivity. A reduction in the capital-output ratio is compensated to a certain extent by an overall increase in output production and labor productivity, by the release of workers engaged in the sphere of material production and by an additional increase in national income.

During the years of the Ninth Five-Year Plan, roughly 200 billion rubles of national income were obtained as a result of a raised level of labor productivity. This increase in labor productivity also made it possible to reduce the number of agricultural workers by 0.9 million persons. In the future, the task of releasing live labor will be even more urgent.

The following indices can also be used for making a judgement concerning the effectiveness of capital investments in agriculture. According to official statistical data, in 1977 agriculture accounted for 13.5 percent of the fixed productive capital available in the national economy. This ratio of fixed capital in the branch was sufficient for creating 14.7 percent of the gross social product and 16.9 percent of the country's national income.

When evaluating the effectiveness of capital investments, it should be borne in mind that a certain portion of such investments does not generally bring about an increase in output production. Its purpose is to ensure adequate preservation of the products created, reduce their production costs, alleviate the workers' labor and so forth. In addition, failure to complete the process of saturating agriculture with fixed capital and the high rates of growth in capital investments caused by this fact are still not creating valid conditions for planning an increase in the capital-output ratio.

The plans for the Tenth Five-Year Plan called for the capital-labor ratio for agricultural workers to be raised by more than 60 percent and the average annual increase in gross output and labor productivity -- by 14-17 percent and 27-30 percent respectively. This came about mainly owing to the fact that the return from capital investments advanced for the reproduction of fixed capital is not realized immediately following their creation, but only after a definite period of time has elapsed, as a rule following the complete development of the capabilities, with a complex approach being employed for solving other production tasks, one which ensures the observance of the required degree of proportionality in the development of production.

Extreme importance is attached to ensuring that new capital investments are accompanied by adequate improvements in the culture of farming and by soil applications of the required quantities of organic and mineral fertilizers. In the final analysis, all of these actions should serve to improve the fertility of the land. The same can be said regarding livestock breeding. Capital investments for the construction of livestock breeding facilities will not ensure a planned increase in output, in the absence of appropriate investments for the formation of a productive herd of cattle. But even here such investments are effective if they are carried out in combination with investments in feed production. In the process, extreme importance is attached to establishing the correct proportions between the availability of feed and the number of cattle maintained.

Finally, when planning capital investments, the proper proportions must be observed in the development of the crop husbandry and livestock husbandry branches, since they are organically interrelated among each other. Unfortunately, the use of such an overall approach in the planning of capital investments in agriculture has recently been very limited. Considerable amounts of resources were allocated mainly for the construction of large-scale livestock husbandry complexes and very insufficient amounts -- for measures aimed at raising the fertility of the land. And this will lead to a definite disproportion between the value of that fixed capital which creates general conditions for the development of production and the value of that portion which directly affects growth in the cropping power of agricultural crops and the production of crop husbandry products on the whole.

Attention is drawn to the fact that a number of substantial shortcomings still persist in the planning, construction and operation of livestock husbandry complexes. The majority of them are being erected using heavy industrial structures of many different sizes. Thus the task of supplying these structures and items of equipment is complicated, the likelihood of standardizing them is decreased and, in the final analysis, the cost of construction is increased. The situation is further complicated by the fact that many complexes are being built with considerable deviations from the normative schedules. In many instances, insufficient thought is being given to solving the problems concerned with developing a feed base for the livestock to be maintained at the complexes, without which a high effectiveness for the capital investments and the future of the complexes is unthinkable.

At the Leninskiy Put' Sovkhoz in Nizhnekamskiy Rayon in the Tatar ASSR, which specializes in the fattening of cattle, 1,200 head of young stock are maintained at a complex. However, owing to a weak feed base and other organizational problems, the weight increases are low. This results in the cattle being retained for longer periods of time on the fattening regime and eventually they are sold at low live weights. It was for this reason that the 1978 plan for selling meat to the state was not fulfilled. Because of this low level of production organization at specialized sovkhozes, other farms were forced into orienting themselves towards the diversified management of livestock husbandry, to the detriment of developing the main branches which determine their specialization.

Some of the livestock husbandry complexes that were built and placed in operation are not achieving their planned capabilities owing to an absence of pedigree animals. Thus, in addition to the breeding farms presently available in the republic, the Tenth Five-Year Plan called for the creation of more than 40 additional specialized farms.

In order to eliminate the above-mentioned shortcomings, the planning and agricultural organs should also summarize the experience accumulated in the construction of livestock husbandry complexes and create improved standard plans in conformity with the specific working conditions found in each natural-economic zone. An equally important task is that of ensuring that the livestock are supplied with high quality feed that is properly balanced in terms of nutritional value. For the purpose of strengthening the feed base in the Tatar ASSR, the plans called for the modernization of irrigation systems on an area of 50,000 hectares and the creation of 150,000 additional hectares of irrigated land, including 130,000 hectares of irrigated cultivated pastures.

Experience has shown that correct solutions for the problems concerned with production organization, in connection with the construction of large-scale livestock husbandry farms, promote a high level of effectiveness for capital investments. For example, the costs for building a complex for the production of 12,000 quintals of pork annually at the Aktashskiy Sovkhoz in Al'met'yevskiy Rayon in the Tatar ASSR were completely paid off in 1978. Whereas earlier 14 quintals of pork were produced here per 100 hectares of agricultural land, the figure has now been increased to 135 quintals. Having increased the number of offspring being obtained based upon a strong feed base and having organized intensive fattening for its young stock, the sovkhoz is now selling up to 10,000 quintals of pork annually to the state and it is presently approaching the planned capability for the complex.

The Laishevo Poultry Factory, the first phase of which was placed in operation in January 1975, can be cited as another example of the above. The factory was planned for 200,000 average annual laying hens. The chickens are maintained in a building consisting of 12 rooms, in single-level cages and they are serviced by a brigade of 18 workers. Production operations were mastered completely in 1976. At that time, 56 million eggs and 557 tons of poultry meat were sold to the state, against a planned capability of 49 million eggs and 453 tons of meat. The capital investments for the project must be repaid within 5 years. During 3 years of operation, they were repaid by 64 percent and thus complete repayment can be expected during the remaining 2 years, as called for in the plan. In 1977 the factory earned 3.01 million rubles of profit from the sale of products, against a plan calling for 2.139 million rubles. The total amount of profit earned by the former 25 Let Oktyabrya Poultry Sovkhoz, which provided the foundation for the creation of the Laishevo Poultry Factory, was 3.7 times less.

Notwithstanding the extensive scale of construction of livestock husbandry complexes, in the immediate future the principal portion of all output will be produced at the old livestock husbandry farms. Thus, great importance is being attached to the modernization of these farms.

During the Ninth Five-Year Plan, 63 livestock husbandry farms were modernized at kolkhozes and sovkhozes in the Tatar ASSR. During 1976 and 1977, 224,000 livestock billets were placed in operation as a result of modernization. This made it possible to mechanize many laborious processes, improve the livestock maintenance technology and achieve additional growth in output and reduce manual labor expenditures, in the absence of large-scale capital investments.

Despite the obvious advantages of modernization, its tempo is still not in keeping with the requirements of the times. Just as in the past, some kolkhoz and sovkhoz leaders continue to display a preference for new construction. The planning and construction organizations are failing to display proper interest in this problem and this is also delaying the development of a solution for the problem of effective use of capital investments.

Great opportunities for raising their effectiveness and improving the use of existing fixed capital are to be found in the specialization and concentration of agricultural production based upon interenterprise cooperation and agro-industrial integration. There are presently more than 160 interenterprise facilities and organizations in the Tatar ASSR. The specialized farms and livestock husbandry complexes are producing more than one fourth of all pork being produced and they are fattening more than one half of all cattle on fattening regimes.

Very significant operational results have been recorded by the Zainsk Interenterprise Association. In 1977, it sold more than 5,000 head of cattle to the state at an average live weight of 409 kilograms and it earned 2.3 million rubles of profit. Its level of profitability was 83 percent.

In view of the tremendous advantages offered by cooperative specialized agricultural enterprises, a need exists for improving these processes in combination with other measures aimed at intensifying agricultural production. Thus, a high level of capital investment effectiveness is being achieved on those farms where, in addition to mastering such investments, other levers are being placed in operation aimed at increasing output production and lowering production costs. It is the responsibility of the specialists and all workers to uncover reserves in a timely manner, so as to ensure that each farm obtains cheaper output and greater labor productivity for each ruble expended and each hectare of land worked.

In carrying out improvements in the effectiveness of capital investments, an important role must be played by the financiers. Together with workers attached to Gosbank institutions, they must undertake the measures required for achieving more rational use of capital investments, for concentrating them on underway projects and for achieving a reduction in unfinished production, the timely placing in operation of new projects and making new production capabilities fully operational within the normative periods.

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7026
CSO: 1824

AGRO-ECONOMICS AND ORGANIZATION

PRIVATE PLOT PROBLEMS IN MOGILEVSKAYA OBLAST

Minsk SEL'SKAYA GAZETA in Russian 30 Mar 80 p 2

[Article by A. Zhil'skiy, head of the public reception room of the Editorial Board for SEL'SKAYA GAZETA, for Mogilevskaya Oblast: "A Private Plot? Yes!"]

[Text] Together with the chief state inspector for procurements and the quality of agricultural products for Mogilevskiy Rayon, Vasiliy Alekseyevich Svadkovskiy, we visited a resident of the village of Il'inka at the Avangard Kolkhoz in this same rayon, Nikolay Sergeyevich Gorbunov. The head of a family for more than 20 years, Gorbunov works as a shepherd. His spouse -- Mariya Aksenovna -- is a field crop grower.

"Well, its a farm" stated Nikolay Sergeyevich, having learned of the purpose of our visit, "A private plot and it is of great assistance to the family."

The Gorbunovs maintain two small pigs and more than two dozen chickens each year. The family always has its own pork and eggs and never needs to purchase meat in a store. Nor do the Gorbunovs buy milk. They have a highly productive milking cow in their cow shed. Last year they sold 3,256 kilograms of milk to the state.

It also bears mentioning that each year the family sells 600-700 kilograms of potatoes to the state. The private plot -- one half of an acre -- is maintained in good condition. The Gorbunovs always have ample quantities of potatoes, vegetables, apples, plums and garden strawberries, so much so that they are even able to share these products with their children living in the city.

"A greater amount of attention is presently being focused on those who maintain private plots" stated Nikolay Sergeyevich, "And this is good. However, there are still many problems in this sphere awaiting solutions."

More than one half of the rural residents have their own plots. This includes pensioners who, two or three times each month, must await their turn for pasturing their private stock, by no means an easy task for elderly persons. This problem has been solved in the Tishovskiy Rural Soviet. Here the executive committee selects the shepherds and concludes seasonal contracts with them. Tracts are set aside on which the private stock of the grain growers are to be pastured. But such concern has been displayed only by this one rural council.

At some kolkhozes and sovkhozes throughout the rayon, definite difficulties are being encountered in connection with the sale to the state of surplus milk obtained from privately owned cows. This was borne out by a signal received from the Komintern Kolkhoz indicating that milk pick-ups had not been organized in the village of Kalinovaya. The people had to carry it to the collection points themselves. However, not all of them were able to do this. A similar situation prevailed at the Kolkhoz imeni Volodarskiy in the village of Staroye Pashkovo.

Fedor Yarosh at the Vendorozh Sovkhoz discusses the difficulties which those who have livestock on their private plots must overcome:

"As a rule, the distribution of haying land tracts for the privately owned livestock is delayed until later Autumn. As a result, we commence cutting the hay in late September or early October. The grass at this time is either overripe or blackened as a result of the early autumn frosts.

Thus I procured hay and still am not authorized to transport it before 15 October. All who are procuring hay from the second cutting carried out on the bottom lands of the Dnepr River are finding themselves in the same position. The sovkhoz leaders obviously fear that, in passing, the sovkhoz hay will also be taken away. But it is not right for every individual to be suspect because of the dishonesty of a few.

The hay must be stored under a roof so long as the weather and roads permit this to be done. However, it is difficult to do this in October and November. Individual owners of private stock decline to use remote inundated meadows that are located 20-40 kilometers from their homes.

It would be far more simple to cut down the aftergrowth by means of joint efforts, using equipment that stands idle at times, and thereafter to transport the feed in an organized manner and issue it to the workers. This would be advantageous to both myself and the state. There would be more milk -- and there would be more milk to sell.

The individual with whom we were speaking was correct. The private plots are of assistance not only to the families. Last year the population in Mogilevskiy Rayon supplied the state with 5,369 tons of milk and during 4 years of the Tenth Five-Year Plan -- 20,115 tons. This is almost the annual program for milk for all kolkhozes in the rayon. The rural workers also sold to the state 1,167 tons of meat, 1,782 tons of potatoes and 3,572 tons of apples.

A well known figure in the rayon is pensioner Anastasiya Filippovna Gomnova of the Kolkhoz imeni Kalinina. On more than one occasion she was the winner in a competition to sell surplus agricultural products to the state. Anastasiya Filippovna manages her private plot in the correct manner. She usually raises one young pig to satisfy her own meat requirements, while at the same time raising a he-calf and another young pig for delivery to the state. Last year, it delivered 3,562 kilograms of milk, more than 1 ton of potatoes and 2,250 kilograms of apples to the receiving points.

As is known, it is profitable to sell surplus agricultural products to the state. In addition to money, the population also obtains mixed feed in the form of counter trade for the sale of such products. Goods that are in short cupply, especially carpet items, are issued to the most active suppliers of milk. For its part, the kolkhoz administration also strives to stimulate the people: a half kilogram of straw is issued for each kilogram of milk delivered. Approximately 0.15 of a hectare of haying land of the second cutting is allotted and fuel shipment privileges are extended. The milk collectors are also economically interested in the results of their work. For each kilogram of milk purchased, they receive 2 kopecks, for the washing of dishware -- 33 kopecks and for a trip -- 1 ruble.

Unfortunately, the number of cattle has decreased recently. Here is some statistical data: in 1971, there were 11,624 cows being maintained on a privately owned basis by residents of Mogilevskiy Rayon, in 1976 -- 10,207 and this year -- 9,271. Thus the individual-owned herd decreased by 2,353 head during the 9-year period. When one considers that each cow furnishes up to 3,500 kilograms of milk annually, then it is easy to understand that the shortfall in milk amounted to several thousands of tons for the 9-year period. Those who sold their cows are today buying their milk in stores.

This data arouses serious reflection. The rayon leaders and the local soviets of workers' deputies must thoroughly investigate the reasons why the rural residents are rejecting the private plots and they must provide them with assistance. It is no secret that the youth in particular dislike the private plots. Very few of the young rural specialists are burdening themselves with the care of a kitchen garden or livestock. This psychological barrier must be overcome. More important is the fact that conditions are available here for maintaining various types of livestock on the private farms.

7026
CSO: 1824

TECHNOLOGY IMPROVES SUNFLOWER CROP

Kiev SIL'S'KI VISTI in Ukrainian 8 Feb 80 p 1

[Article by V. Mel'nyk, head of the Voroshilovgradskaya Oblast Plant Protection Station on: "Raising Sunflowers"]

[Text] Soon farmers will begin their spring field work. Machine operators will start sowing sunflowers. Meanwhile, farms are preparing high-quality sowing material.

Seed is the golden harvest stock. Farmers in the Voroshilovgrad area treat it this way, striving to fulfill all commitments on the increase of sunflower production in the concluding year of the five-year plan. The practical experience of kolkhozes and sovkhozes in the Kremins'koy rayon merits particular attention. In the fall and winter field workers carefully clean and calibrate the sowing material, bringing up moisture to 7-8 percent.

Priority is given here to the treatment of seed with preparations against grey and white rot, false mealy dew and against pests, since many plant pathogens are transmitted from generation to generation with the seed (causing considerable crop shortfall). To provide for high effectiveness of this agricultural measure in the rayon (at the suggestion of the oblast plant protection station workers) a centralized chemical treatment of the sowing material has been practiced for several years now. It is done as follows: In the spring, when it turns warmer (a month and a half prior to sowing) at the kolkhoz imeni Kalinin the RS-100 machine is put to efficient and continuous work. According to a schedule arranged by the rayon plant protection station, farms deliver here first-quality, calibrated seed and receive it back the same day after it has been treated with a preparation under the direct supervision of specialists.

Sunflower seeds are treated with a 65 percent moistened powder of Fentiuram. Two-three kg of this preparation are used per ton of seed with simultaneous water moistening (the norm being 10 liters per ton). For better chemical adherence to seeds, one liter of skimmed milk is added to the water, or 400 grams of silicate glue. Fentiuram protects the seeds in the soil from wireworms, therefore, treatment with hexachlorane is no longer needed. Chemically treated sunflower seed is kept in bags until sowing.

This innovation yields good results; crop susceptibility to rot has markedly decreased.

Because of high-quality accomplishment of the recommended measures, application of organic and mineral fertilizers, and reliable protection of plants from pests and diseases, rayon sunflower growers last year harvested 17.3 quintals of seed on each of 8,350 hectares, and 24.2 quintals on the sovkhoz imeni "Voroshilovgradskaya Pravda" (on 500 hectares).

This experience of the Kremins'koy rayon was taken as an example by other farm workers in the oblast. Because of wide application of the centralized seed treatment process and use of progressive sunflower raising technology, plant susceptibility to disease has been reduced to a minimum, and seed productivity has increased.

A pre-harvest crop desiccation was also helpful; it was done last year on 14,200 hectares.

9443
CSO: 1811

TILLING AND CROPPING TECHNOLOGY

SUGGESTIONS MADE FOR INCREASING SOYBEAN YIELDS

Kiev SIL'S'KI VISTI in Ukrainian 22 Feb 80 p 2

[Article by B. Hranat, chief agronomist, kolkhoz imeni Vatutin, Kirovogradskiy rayon, honored Ukr SSR agronomist; M. Ivanchenko, chief, soybean section, State Oblast Agricultural Research Station, I. Hutyra, candidate of economical sciences on: "Soybean Harvest Among the Diligent"]

[Text] One of the most promising ways to balance feed rations of animals in kolkhozes and sovkhozes is to increase soybean production. Soybeans contain 35-45 percent high-quality protein, 17-25 percent oil and other valuable substances.

This crop has been raised in the Kirovogradskaya oblast for a long time. Workers at the kolkhoz imeni Lenin in the Dolynskoy rayon are especially experienced, having increased the soybean harvest to 17 quintals/hectare during the 10th Five-Year Plan and having increased soybean field areas to 520 hectares. This kolkhoz has been approved as a basic research-model farm for the improvement of soybean raising technology.

This crop grows well also at the kolkhoz imeni Vatutin in the Kirovogradskiy rayon. Of course, success did not come immediately. Specialists studied carefully experiences of the Order of Lenin kolkhoz "Druzhba Narodiv" in the Krasnogvardeyskiy rayon, Krymskaya oblast, and other farms who exhibit their achievements at the Exhibition of USSR National Economic Achievements and at the Exhibition of Ukrainian SSR National Economic Achievements. A lot of help was provided to the Kirovograd rural workers by scientists from the State Oblast Agricultural Research Station.

Following scientists' advice, soybeans are sown here after winter wheat. Under fall plowing of winter fallow 50 tons of manure are applied per hectare, three quintals superphosphate and two quintals abraum sault. The field is levelled carefully. Prior to sowing herbicides are applied under the cultivation. Regionalized seed of the "Korovogradskaya-4" variety is sown at the end of April or in the beginning of May. A month prior to sowing it was treated with the TMTD preparation, and on the sowing day with nitragine.

The sowing norm is 400-450 thousand sprouting seeds per hectare, covering depth, depending on soil moisture, four-seven cm, between-row width 45 cm.

For maximal weed elimination, the sprouts are harrowed with light harrows across the rows and only in the daytime when plant turgor is lowered. As soon as the rows are marked, interrows are tilled with chisel-like working parts. At first [they are tilled] to a depth of 10-12 cm, the second time 7-8 cm, and a third time 5-6 cm. For working the soil within the rows weeding harrows are attached to the cultivator. Prior to ripening, plants are dried uncut using the Reglon preparation.

Harvesting is done with straight combining. Windrowers are set so that the cutting height should not exceed 5-6 cm. The turning speed of the combine threshing drum is lowered to 400-500 turns per minute. Cutting is done during dry weather, starting at 10-11 o'clock in the morning when the dew has completely evaporated.

Application of the experiences of kolkhoz imeni Lenin, Dolynskoy Rayon and imeni Vatutin, Korovogradskiy Rayon and other leading farms--members of the Exhibition of USSR National Economic Achievements and the Exhibition of Ukrainian SSR National Economic Achievements--should, of course, provide for a marked soybean production increase within the oblast. But what are the actual results? If at the seed kolkhoz imeni Lenin 1.7 quintals of soybeans are obtained from each hectare, then at the kolkhoz "Peremoha" in the Kirovogradskiy rayon, last year only 1.6 quintals were harvested. Administration head P.P. Shapovalov explains that supposedly soybeans do not grow well in dry years. But in the last five-year plan this crop was raised on a larger area with a fairly good harvest. However, in the following years smaller and smaller areas were allotted to it and the experience gained was lost.

The following is the story at kolkhoz "Zhovten'" in Znamyans'koy rayon. In the rayon agricultural administration it is listed as seed-producing. Therefore, it could have been expected that the cropping technology of this valuable crop had been thoroughly studied here and was being put into effect. However, it soon became apparent that the soil under soybeans had not been specially prepared either in the fall or in the spring. Soybeans were allocated to an area after sugar beets under which 100 tons of organic fertilizer per hectare were applied. They were counting on the after-effects of this application.

In the first phases of its development, soybeans withstand drought better than other agricultural crops, therefore, the plants developed normally. However, during flowering and particularly during pod formation, growth and filling the need for moisture increases sharply. At this point the negative effect of sugar beets (as a prodecessor) which dry out the soil became obvious. Soil and air dryness brought about intensive falling off of buds, flowers and pods and only slight seed filling. Two-phase harvest methods also led to seed loss; on each of 50 hectares only 1.2 quintals were harvested. This would not have happened if kolkhoz specialists and machine operators had learned the cropping technology, and had familiarized themselves with scientists' recommendations and progressive experience. They need not have gone far to obtain it. At the neighboring kolkhoz "Shlyakh Illicha" workers obtain abundant harvests.

Kolkhoz "Zhovten'" is not an exception in the Znamyans'kiy rayon. Lack of attention to the introduction of the new and progressive resulted that in general within the rayon only 3.9 quintals of soybeans per hectare were harvested.

What does the oblast agricultural administration have to say about it? They issued an order (dated 27 June 1978) in which, among other points, the following is stated: "To organize as at the kolkhoz imeni Lenin instruction for farm managers and specialists. To provide for the fulfillment of organizational-farming measures to introduce the experience of the basic research-mod l farm in all oblast kolkhozes."

However, these planned measures remained on paper only.

Increasing the yield of the soybean hectare is a problem which deserves more attention. The protein cattle-feed ration balance is inadequate on many of the oblast farms. Managers of oblast and rayon agricultural administrations must take this into consideration.

9443
CSO: 1811

HIGH WINTER WHEAT YIELDS EXPECTED IN POLTAVA

Moscow SEL'SKAYA ZHIZN' in Russian 5 Mar 80 p 2

[Article by V. Vantsak, chief of the Poltavskaya Oblast Agriculture Administration and Honored Scientist of the Ukrainian SSR, and V. Chuyko, director of the Poltavskaya Agricultural Experimental Station: "Winter Grain"]

[Text] Agricultural workers in the Poltava area have a special attitude toward winter wheat. This has been the case for a long time. And now it is true to an even greater degree. They value it first of all because it is high yielding and with good agricultural practices it has always justified the hopes of the grain growers.

Practice has shown that the fate of winter grains is frequently predetermined by the fall. In places where they prepared the soil for sowing haphazardly and where they obtained shoots which were too thin, late, and uneven, even after a good winter they frequently have to resow or "repair" the sown areas. There's no use in blaming the weather for this: it corrects, but does not determine the yield! It is entirely a matter of technology, timeliness, and the quality of field operations.

Let us turn to the practice of last year, an especially difficult and at the same time a most instructive year. It was distinguished not only by the complex conditions of wintering (frequent thaws, alternating with low temperatures), and also a severe drought in May and June when the crop was being formed.

Spring crops have proved to be in an exceptionally bad state; part of them died, the rest produced a very low yield. Winter wheat yielded an average of 27 quintals per hectare for the oblast; up to 30 or more quintals of grain were obtained on the average in Grebenkovskiy, Zen'kovskiy, and Kotelevskiy rayons. The Bil'shovyts'ka Pratsya Kolkhoz in Karlovskiy Rayon raised an average of 48.4 quintals of wheat grain per hectare; the sovkhoz of the Oktyabr'skiy Sugar Combine of this same rayon raised 48.5 quintals, while the teaching-experimental farm at the Poltavskiy Agricultural Institute harvested 45.3 quintals. The experimental farm of our station harvested 46.7 and the Kolkhoz imeni Ordzhonikidze in Shishatskiy Rayon, the Peremoga Komunizma Kolkhoz in Lokhvitskiy Rayon, and the Progress Kolkhoz in Karlovskiy Rayon raised 38 to 40 quintals.

How was this done? What is the basis for such indicators? We repeat again: know-how.

New methods of soil preparation have become firmly entrenched on the fields of Poltavskaya Oblast, and this guarantees success. Mouldboardless shallow cultivation of the fields after all precursors, and especially after late harvested precursors makes it possible to achieve better soil lossening and creates an upper mulching layer, thanks to which there is better moisture retention.

In our station's tests mouldboardless disked soil cultivation after the harvesting of peas for grain yielded an average multi-year increment to the winter wheat yield of 5 quintals per hectare and cultivation after corn for silage yielded 5.2 quintals per hectare more compared to the yield after plowing.

This promising method has been adopted by oblast grain growers and guarantees success on the winter field. Mouldboardless tilling has been practised for over 10 years on Bil'shovyts'ka Pratsya Kolkhoz in Karlovskiy Rayon. During these years the increment in winter wheat grain yield has totaled an average of 4.7 quintals on each hectare.

Here they do not forget about another very important factor -- the schedule for feeding the plants. Despite the fact that the kolkhoz land is very productive, the farm applies 14 to 15 tons of organic fertilizers and 7.3 quintals of mineral fertilizers per hectare of plowed land.

It is noteworthy that for 10 years now the kolkhoz has not once resown winter wheat (even though the years have been different), and its average yield during the Tenth Five-Year Plan totaled 50.4 quintals per hectare.

An analysis of the work of the above mentioned leading farms bears witness to the fact that they scrupulously adhere to the best periods for carrying out technological operations, and quality is regarded as of paramount importance.

The level of our skills and the material and technical base of agricultural production make it possible not just to place our hopes on this crop, but also to program and to purposefully direct the process of obtaining a harvest.

In this sense the oblast has made a very promising beginning. In 1978 scientific associates of the experimental station in cooperation with directors and specialists of the Progress Kolkhoz in Karlovskiy Rayon worked out a complex of measures which should guarantee a 65-quintal yield of winter wheat. A 100-hectare crop rotation area was selected for the experiment. Here annual grasses raised on occupied fallow was the precursor crop. The soil cover is deep, average-humic chernozem.

The methodology first of all provided for the determination of base data, that is, what the farm had achieved. It emerged that on the kolkhoz the annual increment in the wheat yield averaged 2 quintals during the previous 10 years. If the kolkhoz retained the existing technology, then a yield of 51 to 52 quintals per hectare could have been anticipated in 1979. But it was decided to increase the yield to 65 quintals. Hence, the necessary background for such an upsurge had to be created. First of all, plants had to be guaranteed nutrients. In this case there had clearly been a shortage of the accepted amounts of fertilizers. Taking into consideration what the soil had been saturated with, the agrochemists calculated that to achieve the planned level it was necessary to apply an average of 45 tons of organic fertilizers and 13 quintals of mineral fertilizers per hectare.

An increase in moisture provision is the second decisive element in the program. The planned yield required 455 millimeters of productive moisture. This requirement was satisfied thanks to reserves accumulated during the fall, spring-summer precipitation, and snow.

The Odesskaya-51 regionalized variety met the program's requirements, since it is responsive to fertilizers and uses moisture economically. Measures were also defined to protect plants from pests and diseases.

Naturally, farm specialists and scientific associates kept this area under special agronomical control. And here is the result: 63.8 quintals per hectare!

By the way, the raising of a programmed crop of sugar beets on this kolkhoz also guaranteed good results: an average of 612 quintals was actually obtained per hectare compared with the planned yield of 600 quintals of the root crop.

Relying on the results achieved, oblast kolkhozes and sovkhozes last fall worked an area of wheat considerably larger than planned.

To guarantee a high yield, the structure of precursor crops was reviewed on the eve of the sowing. The area sown to wheat was reduced on the stubble field and increased on occupied fallow and leguminous crop fields. As for the composition by variety, along with the Odesskaya-51, a large proportion of the area is occupied by Akhtyrchanka and Dneprovskaya-846, which produce an appreciable increment in grain under similar conditions.

Of course, there are many difficult stages ahead. What will the spring be like? What sort of summer will we have? All these are problems with many unknowns. But the agricultural workers in the Poltava area have a reason to expect new achievements on the winter field this year.

7990
CSO: 1824

TILLING AND CROPPING TECHNOLOGY

DEVELOPMENT OF NEW WHEAT VARIETY TRACED

Moscow SEL'SKAYA ZHIZN' in Russian 8 Mar 80 p 2

[Article by G. Karpenko, editor of Radyans'kiy Prapor, the Konotopskiy Rayon newspaper, Sumskaya Oblast: "Creators of the Grain Ears"]

[Text] An expansive, rich steppe of fertile chernozem spreads over the southern part of Akhtyrskiy Rayon, Sumskaya Oblast. The Ivanovskaya Experimental Selection Station is located here; its associates are conducting the painstaking work of enriching the grain field with new varieties and hybrids.

Selection expert Anna Savvishna Lastovich says, "This brought me here. At the Khar'kov Agricultural Institute I heard lectures by the famous selection expert Professor Vasiliy Yakovlevich Yur'yev. For 2 years I practiced wheat selection under the direction of Professor Andrey Frolovich Shulyndin. And immediately after graduating from the institute I headed the department for winter wheat selection and winter crop seed growing at our station."

Anna Savvishna does not mention how difficult the path that she has chosen is. The profession of selection expert has never been an easy one. The task of developing a new ear is given only to the most talented and patient, to those who possess not only experience, but also innate intuition, skill in seeing and channeling in the necessary direction the smallest changes taking place in plant life. The job of selection expert is especially complex today. You see, when A. S. Lastovich set about her work, such masterpieces of selection as Bezostaya-1 and Mironovskaya-808 had already become famous. But if you look closely, they have their "shortcomings." The first one does not cluster well enough, and it freezes in severe winters, while the other one lodges. Hundreds, many hundreds of samples and cross pollinations, thousands of numbers and hybrids cherished and cared for by hand and then ruthlessly rejected and cast aside as useless. In 20 years of work only 100 strains have been developed which proved more or less suitable for further work.

Only one day we were lucky. They sometimes say: if there's no good luck, even bad luck helps. In the winter of 1963, which was exceptionally dry for Sumskaya Oblast, only individual Bezostaya-1 plants remained in the experimental plots. Their meager yield was carefully harvested. Then hybrid combinations with Mironovskaya, long years of selection, and among the 100 strains that emerged only one pleased the young selection expert. Its ear turned out to be tight, thick-grained, and this gave promise of a high yield. From its parents it took early maturity, excellent winter hardiness, abundant tillering and resistance to all sorts of diseases such as leaf and stem rust. Years of careful, pitiless selection passed, and then the strain which had been developed really began to surpass its progenitors in yield on the experimental plots.

After 4 years of ecological testing at the stations of the Khar'kov Selection Center system (1971-1975) the yield of the new strain reached 60 to 70 quintals, exceeding the regionalized Mironovskaya-808 on the average of 8 quintals of grain per hectare. And then the strain, after being verified, was registered as a new variety under the name Akhtyrchanka.

During the years which have elapsed since then, Akhtyrchanka has convincingly proved its merit in state and production variety testing. Its yield exceeded that of regionalized varieties in Tul'skaya, Cherkasskaya, Poltavskaya, Khar'kovskaya, and several other oblasts.

In 1978 this variety occupied 4,967 hectares in Akhtyrskiy Rayon, Sumskaya Oblast, and yielded an average of 46 quintals of grain from each hectare.

For several years on the average Akhtyrchanka exceeded Mironovskaya-808 in yield by 5.5 quintals per hectare in Sumskaya Oblast; it is exceeding the regionalized variety Il'ichevka by 3.4 quintals in Cherkasskaya Oblast and Odesskaya-51 by 3.7 quintals in Poltavskaya Oblast. Seed growing is not yet successfully meeting the demand for it.

Anna Savvishna says, "The entire station collective helps in the work of developing new varieties. I consider junior scientific associate Viktoriya Mikhaylovna Bazhan and scientific associate of the All-Union Scientific Research Institute of Sugar Beets Nikolay Ignat'yevich Savchenko my co-authors. The success of Akhtyrchanka is our joint success."

The work of selection continues. A. S. Lastovich is currently conducting tests of the new varieties Ivanovskaya-12, Ivanovskaya-46, and Ivanovskaya-8. Many plans are connected with the creation of a new variety of spring wheat.

7990
CSO: 1824

TILLING AND CROPPING TECHNOLOGY

BRIEF

SHORT STALK WHEAT--Kherson. Selection experts at the Ukrainian Scientific Research Institute of Irrigated Agriculture are working hard to develop new varieties and hybrids of agricultural crops. Recently they completed the creation of two short stalk winter wheats -- Ostistaya-3 and Khersonskaya-552. Under testing at the institute these varieties yielded 85 to 90 quintals of high quality grain per hectare. Plants of these varieties do not lodge: this is very important under conditions of irrigation. The new varieties have been submitted for state testing. [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 2 Apr 80 p 3] 7990

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DATE FILMED

6 May 1980

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